

COTTAGE HOSPITALS.

REMARKS

OF

MR. F. A. CONKLING

UPON THE

REPORT OF THE COMMITTEE ON A VILLAGE
OF COTTAGE HOSPITALS,

DELIVERED AT A MEETING OF THE

GOVERNORS OF THE SOCIETY

OF THE

NEW YORK HOSPITAL,

HELD JULY 6, 1876.

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Mr. President:

Having examined with some diligence, the printed report of "The Committee on a Village of Cottage Hospitals," both in relation to the soundness of its propositions and to their feasibility, I feel constrained to say that I have found no occasion to change the opinion which I expressed when the report was first submitted to the Board of Governors. I fail to discern the pertinency to the subject-matter under consideration, of a large proportion of the citations and statistics which it embodies. Some of the analogies sought to be established, appear to be forced and illogical, while some of the more important conclusions, as I shall presently show, are at variance with the best authorities.

The Hospital is the exclusive outgrowth of the Christian civilization and has had no place in any other. The etymology of the term admirably expresses its purpose. The word "hospital" is derived from the Latin *hospestes* (a guest), and it is not out of place to remark that the word *hotel* has precisely the same derivation.

The name hospital is applied to the temporary home provided for the sick and injured who need the care of the nurse and the skillful aid of the physician, and who for any reason cannot be treated in their own dwellings. The hospital constitutes for the sick what the hotel does for the sojourner, the office of the two being strictly analogous.

The whole scope of the subject appears to me to be embraced in that simple fact. The conditions and arguments which are applicable in the one case are equally forcible in the other. We do not build our hotels in distant or out-of-the-way places, but on the great avenues of business, to the end that the traveler or visitor, when sojourning with us, may always have his temporary abode convenient to his wants. A hotel built ever so gorgeously in some secluded nook whither nobody resorts, would be justly regarded as a monument of folly.

The same judgment must be pronounced upon hospitals. It is imperative that they shall be established, whatever may be the incidental demerits of a locality, where the persons are to be found who need their ministrations. This appears to me to be the plainest dictate of common sense. However proper the structure and however advantageous the appointments, a hospital will always be found practically useless, if it be situated at any considerable distance from the resorts of men. Even establishments designed for the treatment of chronic maladies of a comparatively mild type, such as Water Cures, Sanitaria, Infirmarys, etc., if erected in distant

rural localities, are apt to be speedily abandoned or practically converted to other uses. Hence we find that such institutions are now almost invariably erected in the immediate vicinity, if not within the limits, of cities ; and the larger the city, the more likely is it to be selected for the purposes referred to. The reason for this is obvious. Not only are all the economies peculiar to the hotel, equally applicable to the hospital, but patients, physicians, surgeons and attendants alike concur in demanding that they shall be so placed as to be convenient of access.

The duty, therefore, devolves upon us to act within the sphere assigned to us. Our vocation is not to ascertain where better conditions for a hospital can be obtained, but to provide accommodations for those who require them *here*. I do not affirm that a better place cannot be found for a hospital than in the city of New York ; but I do insist that a hospital for the inhabitants of New York must be provided *within* the city, or it will certainly, in a great measure, fail of meeting their wants. By that fact we must be governed.

The chief argument against large hospital buildings in populous cities, is the alleged heavy rate of mortality in them incident to surgical operations. The report of the committee affirms that pyæmia "causes the death of one-third of all who expire after amputations for injury, and that of those who suffer amputation for disease, it destroys 34 per cent."

It is assumed that pyæmia is superinduced by the absorption of poisonous emanations from the bodies of

the sick or wounded, and from the walls of rooms charged with infectious matter. To the end that this fearful scourge may be avoided, it is proposed that this Society provide a village of cottage hospitals.

THE NORWICH AND NORFOLK HOSPITAL.

The question here confronts us, whether the objections which have been urged against the city hospital are well founded, and if so, whether they are insuperable. The committee cite the example of the Norwich and Norfolk Hospital, of which Mr. Erichsen says: "There is, in these extreme cases, only one remedy left, viz., the demolition of the infected fabric and the destruction of its materials."

Mr. Cadge, the surgeon in charge of that hospital for the last five years, has at once effectually disposed of this example and set at rest many similar allegations. In a paper recently read by him, before the Medico-Chirurgical Society, he says: "You are probably aware that for some years past, pyæmia has been a disastrous evil in our wards, to the extent that in the last five years but one, we have lost thirty-two patients and only one or two recovered. We believed that this insalubrity was due chiefly to overcrowding, to the accumulation of too many bad or suppurating wounds in close contiguity. The medical staff endeavored to remedy the evil by diminishing the number of beds occupied, by limiting the admissions as far as possible, by general care, and by improved ventilation; and in 1874, by the performance, during six months, of many of the severest opera-

tions in another building. Notwithstanding all these precautions, the disease remained ; and, in the first three or four months of last year, there were four deaths from pyæmia and two or three from traumatic erysipelas."

"At that time, in April, 1875, we carried out a very complete and thorough change in the Nursing Department. Previously to that time, the House Surgeon was supposed to have the charge of and direct the work of the nurses, the matron being little more than a house-keeper, and having no knowledge of nursing. * * * We appointed a lady to take charge of the Nursing Department, who was a skilled, experienced and practical nurse. She at once detected the faults and deficiencies in her department and applied the remedies. To her unceasing watchfulness and care in nursing, aided by the redoubled efforts and personal devotion to the work of the hospital of the House Surgeon, are, I believe, mainly due the results I have now to state."

"In the year ending April 1, 1875, there were 294 cases of operations and suppurating wounds treated in the hospital and in the building to which I have referred. Among these 294 there were nine deaths from pyæmia, and three or four from traumatic erysipelas. In the year just passed, ending April, 1876—exactly the time during which these changes have been working —there were 350 operations and wounds, and not one death from pyæmia or from traumatic erysipelas. I ought to say that during this year, as in the year before, we have had the use of another house, in which most of our im-

portant operations and many of the worst accidents have been treated ; and to these two changes, but chiefly, I believe, to the great attention to the dressing of wounds and the details in nursing, may be attributed the cessation of this fell disease. The treatment of wounds has chiefly consisted in the free use of drainage-tubes, the application of carbolized oil on lint covered with cotton-wool, and the occasional use of the full antiseptic method."

" For years past, whenever I have visited the hospital, after having performed operations, whether severe or trivial, I have always felt an uneasy misgiving lest the House Surgeon should greet me with the remark, ' Your patient has had a rigor ; ' and I dare say my surgical colleagues have had the same feeling. Too much have we been accustomed to this remark, and too well did we know its fatal import. Now, however, and for the past year, we follow up our work with a cheerful confidence that all will be well : we scarcely know what a rigor is—certainly not a true pyæmic rigor—and I believe that our death-rate, after operations, will bear comparison with the healthiest hospital in England."

Mr. Cadge further remarks : " By what has been said the chief means will have been indicated by which prevention (referring, of course, to blood-poisoning) is to be obtained."

" Mr. Lister obtains it by antiseptic surgery ; he cares little about overcrowding or ward-cleanliness, but he secures most completely surgical cleanliness of wounds."

"Mr. Callender, on the other hand, takes care that there shall be no impurity or miasm in his wards ; that there shall be no overcrowding, and that the wounds themselves shall always be dressed with scrupulous care.

"We, in this hospital," Mr. Cadge adds, "have imitated his care in these respects, but we have, I maintain, discovered this year a source of infection which has, I believe, been too little dwelt upon and too much overlooked hitherto. I mean the infection which creeps along and spreads by impure bed-linen and bed-furniture ; by careless neglect in the purification of bandages and linen, and by the disregard of disinfecting and laundry arrangements. As before mentioned, we have taken active steps against overcrowding and in favor of ward-ventilation ; but it certainly did not enter fully into our thoughts that here, probably, the greatest fault of all was to be found in defective nursing. Very probably, in other hospitals these same defects are the unsuspected cause of their unhealthiness ; and the remedy will be, not merely to look to structural aptitude of the building, but rather to the more humble but equally important question of nursing and ward-management."

It may here be remarked that, as an additional safeguard against infection, our own surgeons have dispensed with the use of sponges in amputations, and have substituted cotton-waste, which is at once destroyed.

So much for the testimony of the Surgeon to the Norfolk and Norwich Hospital. I submit that his testi-

mony furnishes a complete refutation, not only of that portion of the report of the committee which treats of this particular hospital, but likewise of its general propositions and reasoning.

PYÆMIA IN PRIVATE AND IN HOSPITAL PRACTICE.

In the next place, I invite attention to the remarks of Mr. Prescott Hewett, the senior surgeon of St. George's Hospital, delivered before the Clinical Society of London, of which he is the president, upon the cause and origin of pyæmia. I quote his own language : "Pyæmia, it has been said, is caused, for the most part, by hospital air, by foul air consequent upon the aggregation of surgical cases in the wards of our large hospitals; but it occurs also in cases even when placed under the most favorable conditions—perfect isolation, large airy rooms in the country, with plenty of pure air and in every way well cared for." Referring to twenty-three cases of pyæmia which had occurred in his private practice, he remarked "in six of these cases, an operation more or less slight had been performed, in different years and in different localities. In seventeen of the cases no operation had been performed. In eleven, there was a broken surface ; in six, not even an abrasion. Of these seventeen cases, none occurred at the same period or in the same locality. Seven of the twenty-three cases happened in the country."

In the discussion which followed, Mr. Charles Hawkins, of St. George's Hospital, related the case of

a gentleman, a lawyer, riding in the Park, who was thrown from his horse and fractured his leg. He was brought into the hospital and placed in the ward in the new wing, which hitherto had not been occupied. He had for breathing-space upward of 12,000 cubic feet. He had a nurse told off to himself, and everything in the requirement of diet which he would have had in Belgrave Square. He died within three weeks of pyæmia. Mr. Hawkins further observed that "in the next ward, thirty or forty patients were lying, having only 1,200 cubic feet of air per head, and attended by one head nurse and his assistants—subject, therefore, to abundant opportunities of contamination by infectious matter. There lay a patient who had come to grief in bringing up a horse from Epsom. The result was: his thigh was broken, his jaw was broken, and such an impression was made upon his skull, that before he left the hospital, there were seven or nine pieces of bone taken from his cranium. That patient did well in the crowded ward."

Mr. Hawkins further observes :—" But we have had the means, through the munificence of one individual, of putting to the test the opinion which has been given with great earnestness for many years, that if operations were performed in the country, and we only had convalescent hospitals where the patients could be sent out of the contamination of London hospitals, with closely packed beds, the cases would do well. Through Mr. Morley's liberality, the governors of St. George's Hospital were put in possession of a hospital at the top of

Wimbledon Hill, in, I suppose, perhaps the most healthy position to which we could go within the distance. We have seen the most serious operations do well at St. George's—we have seen them do badly ; we have seen them do well in Wimbledon, and we have seen them do badly. We have seen patients die at Wimbledon having a room all to themselves—nurses for themselves—when there was no disease of any contagious kind, for the patients were almost convalescent, with an air blowing pretty nearly from the sea. That experiment has not as yet solved the question of the wherefore this mortality amongst the patients in hospitals ; nor has it served to attach the blame to causes merely local."

Sir James Paget said: " My experience exactly accords with your own, that pyæmia in private practice is, making a certain deduction for the different class of persons with whom we have to deal,* just as frequent, arises from just as trivial causes, occurs after the same class of injuries and leads to the same fatal results as it does in hospital practice. Among private patients, I have seen pyæmia arise from more trivial causes than I have ever seen in hospital practice ; and I have seen no reason to believe that hospitals are places of greater infection, as it is called, or of greater unhealthiness, than what is met with in private practice. I therefore come to the very clear conclusion that there is really nothing, I will not say in any hospital, but nothing in a well-managed hospital which contributes to the production of pyæmia."

* Reference is here made to the fact as stated by Sir James : " That one has to do with the well-fed in the one place, and many of the starved and the intemperate and the drunken in the other."

THE ANTISEPTIC MODE OF TREATMENT.

Prof. Lister, the champion of the germ-theory of disease and of antiseptic surgery, almost totally disregards the overcrowding or the cleanliness of wards, and directs his attention to the antiseptic treatment of wounds. The wards under his charge at the Glasgow Infirmary, from being the most unhealthy in the kingdom, were converted into models of healthiness. At the Edinburgh Infirmary also, of which he was the surgeon for six years, the wards were dirty and overcrowded by bad cases. There had been no cleaning done for three years. The patients were laid on the floor; two, three, and sometimes four children in a bed; and yet he had during the entire period, only a single case of pyæmia. In his address to the Surgical Section of the British Medical Association at Edinburgh, Prof. Lister quotes the statements of Saxtorph of Copenhagen, of Nussbaum of Munich, of Thierach of Leipzig, of Volkmann of Halle, of Bardleben and Langenbeck of Berlin, and of Von Busch of Bonn, to the effect that, whereas pyæmia and other septic diseases had been disastrously common in their large hospitals, they had, since the introduction of antiseptic treatment, almost entirely ceased.

THE DISINFECTING PROCESS IN NEW YORK.

Prof. A. B. Crosby, in a recent address before the New York Medical Society, gave an account of the disinfecting process resorted to by Prof. Doremus in the wards of Bellevue Hospital, in which the surgical

cases under the care of Dr. James R. Wood were treated. In fourteen consecutive major amputations, performed within the past year, there has not been a death, although his patients have all occupied the same wards that were vacated a year ago, on account of puerperal fever. In addition to these amputations, there have been in the same wards, other capital operations, including resections of the knee and elbow joints and several amputations of the female breast, all of which have done equally as well as the limb amputations. By excluding cases of erysipelas, gangrene, ulcers and burns, and by observing the most perfect cleanliness in all respects, no case of pyæmia had been seen and only two cases of erysipelas in subjects afflicted with cancer; and Dr. Crosby has treated successfully in the same wards, compound comminuted fractures, with extensive laceration of the soft parts. "Sepsis," he remarked, "has not gained a *habita* in these wards, since disinfection and cleanliness have been absolutely enforced." Similar observations were also made in reference to Long Island College Hospital. Dr. Crosby maintained that sepsis in a hospital is a crime, that cleanliness would prevent its extension, and that disinfection would drive it from its stronghold.

Dr. Casper Morris, in the paper which he submitted to the trustees of the Johns Hopkins Hospital, expresses similar views, and affirms that an old building in which purity and neatness are maintained is greatly to be preferred to a new one without such care. "It must not," says he, "be assumed that all the peril of what

is termed *hospitalism* rests lurking in old buildings; much less can it be admitted that it is found only there and can be escaped or annihilated by adopting barrack buildings of one story and of cheap construction, easily erected and quickly destroyed."

From what has been said, it appears to be reasonable to conclude :

1st. That pyæmia is as dangerous and fatal in private practice as in hospitals, and that patients are subject to it equally in the country and in the city :

2d. That with proper regard to hygienic conditions, our present hospitals can be made to accomplish all that we have a right to expect from them :

3d. That the antiseptic system of treatment, if properly carried out, will remove all danger of septicæmia even in the most crowded and neglected hospitals.

GENERAL CONSIDERATIONS.

A few general suggestions touching the policy of erecting a village of cottage hospitals may not be amiss. Of course it will be understood that they have no reference to a home for convalescents.

Irrespective of the danger of pyæmia and other analogous diseases, it may be doubted whether a rural hospital enjoys hygienic conditions superior to those of the city.

Everywhere in the agricultural districts, the emanations from the fermenting and decomposing earth, which in the city are kept down by the pavements, are sent forth without restraint to contaminate the atmosphere.

In the spring, tillage opens the ground and diffuses in all directions the spores of intermittent, typhus and other fevers; while in the autumn the decaying vegetation sends up its pestiferous exhalations. The committee has referred to the experience of new recruits in the army during the war of the rebellion. Whatever liability to disease of the kind referred to may have existed, is attributable, in no small measure, to the causes which have just been enumerated. A rural hospital must of necessity be exposed to a class of perils from which the city hospital is exempt. As regards the supply of water for the multiform purposes of a hospital as well as thorough drainage and the removal of fecal and refuse matter of every kind, it will, I think, be conceded that this city compares favorable with any place in the country.

A careful enquiry has convinced me that it will not be possible to secure for a distant hospital the services of the eminent physicians and surgeons who have in the past so largely contributed to the fame and usefulness of the New York Hospital. The imperative demands of their private practice will prevent them from responding to the demands of this Board under such circumstances. Accordingly a staff of resident physicians and surgeons will become indispensable. This will of course involve the payment of salaries. Under such a system, the professional staff will be made up of another grade of practitioners. The character of this old and honorable institution will be correspondingly lowered, and its usefulness impaired.

The distinguished physicians and surgeons who now minister gratuitously to the patients in our city hospitals, derive their compensation from the experience and skill which they acquire, and from the opportunity thus afforded to give their students the benefit of clinical instruction. In the Old World, schools of medicine and surgery are attached to the hospitals. In this city the practice has uniformly been to accord to the students of all the schools, the opportunity to be present at the cliniques and to witness the operations, to the end that they may perfect their professional knowledge. One of the avowed objects of the early benefactors of this hospital was to furnish a school of science and instruction. To this end it received for fifty consecutive years an allowance from the State Treasury. Its early reports distinctly mention this fact and demonstrate how completely this purpose has been carried into effect. In the brief account of the Hospital which was published in 1804, the following passage occurs: "The peculiar and signal benefits afforded to the sick and disabled by the prompt application of the medical and surgical aid of an hospital, its great and general importance also as a valuable medical school to all who are desirous of improving themselves in the healing art, and its extensive utility to the whole State, have been fully seen and felt by the Legislature."

In the annual report of the hospital for the year 1856, at which time the fifty-year annuity of \$22,500 pledged by the State came to an end, and for several subsequent

years this statement in words or in substance appears:—"The New York Hospital continues, as it has done for more than sixty years, to assist the great objects of medical science and instruction, by giving facilities for attendance on its practice to the students of the several medical schools in this city, and also to graduated physicians from other parts of the State desirous to avail themselves of the improvement in practice which is afforded by observation of the variety and severity of diseases treated in a large hospital." The proposed change to a village of cottage hospitals would work a radical departure from the long existing policy thus indicated. If our leading physicians and surgeons should cease to conduct operations and cliniques, which would be the inevitable sequel, the usefulness of the hospital as a means of professional instruction would come to an end.

In a village of cottage hospitals, placed at a distance from the city, it is not too much to predict that great difficulty will be experienced in procuring and retaining a suitable corps of subordinate employés. Furthermore, is it not a conclusion justified by the experience of many families, that in the event of a contagious disease breaking out, every domestic, to say nothing of the nurses, would be panic-stricken and desert their posts? Under the most favorable circumstances, the absence of an adequate public police force will render it difficult to preserve a wholesome discipline in a rural hospital. Any violation of order arising from enmity or undue familiarity would be difficult to suppress, while a hostile

demonstration from without would find the proposed village as defenseless as were the quarantine buildings on Staten Island, when fired by an organized mob in 1858.

The separation of the sick and wounded—their banishment—so to speak—from their families and friends, cannot fail to be attended with unhappy results. Indeed, to my mind, it argues a misconception of the very constitution of the human mind and heart to suppose that it could be otherwise. From the cradle to the grave, man stands constantly in need of aid from his fellow-man. Nostalgia, or home-sickness, is treated by the medical writers as a *disease*, and its serious results, even amid the excitements of military life, are well known to the profession. When we take into the account how much the moral condition of the patient has to do with his chances of life, the weight due to this view of the subject, will be apparent.

It need hardly be remarked that rest and quiet are of vital importance to the sick, and in a still greater degree to the victims of accident. Especially is this true at the outset, the very time when removal to a distance is proposed by the advocates of the new system. In war, especially after battles, the difference in mortality between the wounded who are treated on the field and those who are transported to a considerable distance is universally conceded.

Thus it would seem that the most important considerations of public policy—good faith, economy of re-

sources and the welfare of patients—are opposed to this scheme. In short, it is one of those ephemeral fancies which arise from time to time in the history of medicine—raging like an epidemic, and then passing away utterly. The evils which have been asserted to exist in connection with city hospitals admit of remedy without resort to the proposed system, which would be no less than a revolution.

APPENDIX.

DISINFECTING THE WARDS OF BELLEVUE HOSPITAL.

WEST POINT, July 5, 1876.

Hon. F. A. CONKLING:

DEAR SIR,—It affords me much pleasure to comply with your request to furnish you an account of the disinfecting process employed in the surgical wards of Bellevue Hospital a year ago last spring.

In brief; I generated between two and three tons of *chlorine gas* in the poisoned wards, having previously wetted the floors with water, and dampened the ceilings and walls with steam.

I purified the water closets with ozone.

In detail; strips of paper were pasted over the crevices, by the sides of the windows and the doors to check the loss of chlorine by draughts.

Two large troughs were made of sheet lead, eight or ten feet in length by four or five feet in width; the edges were turned up, say about six inches.

A sack of common salt (chloride of sodium) and an equal weight of the black oxide of magnesia were mixed with water in such leaden receptacles. A carboy of sulphuric acid was placed in pitchers, basins or other earthen or porcelain vessels around the troughs, so that several assistants could simultaneously pour their contents into the aforesaid mixture of salt and magnesia.

The floors were then dampened with water and the wards were filled with steam until the moisture condensed

on the walls and ceilings. Through the misty atmosphere half a dozen of us groped our way to the vessels filled with acid and carefully distributed the oily liquid over the black mud in the troughs of lead.

Large columns of chlorine gas were immediately discharged. We rapidly left the wards, closed and secured the doors lest anyone should accidentally enter the choking atmosphere, for it would have proved fatal to any intruder.

After twenty-four hours the saline mass was stirred with wooden shovels; and a second application of sulphuric acid was made, causing copious evolution of chlorine. The wards were again left to its potent disinfecting action.

Twenty-four hours later the windows were opened; the leaden troughs, with their saline residues, were removed; the floors and walls were scrubbed, and after thorough ventilation the wards were considered disinfected and ready for the reception of patients.

Some of the wards were exposed to the action of this gas for three days.

The water closets connected with the surgical wards were deodorized and disinfected through the agency of ozone generated from the *Permanganate* of soda.

A mixture of equal weights of manganate of soda and sulphate of magnesia was sprinkled in and around the basins.

These salts decompose in the presence of water; a permanganate of soda is formed which, when brought into contact with fetid organic matter, sets free ozone, and oxidizes the odorous and frequently poisonous compounds, destroying their disagreeable smell, and rendering them innocuous.

This mixture was preferred because it is effective, is easily applied, is without odor, and is the cheapest mode of making a permanganate a salt fertile with ozone.

It was observed by all who entered the wards, which had been subjected to this chemical treatment, that the mawkish flavor so characteristic of hospitals, even though most carefully cleansed after the ordinary manner, had entirely disappeared.

The records of Bellevue Hospital bear ample testimony as to the poisonous nature of certain surgical wards of this venerable building, the walls, ceilings, floors and furniture of which were magazines of pestilence.

Records made subsequent to the employment of the anti-septical substances narrated, demonstrate that these mysterious pyæmic poisons have been chased to their lurking places, and robbed of their virulence.

These results are peculiarly interesting at the present time when eminent hygienists are advocating the erection of *wooden* hospitals, to be burned up after the lapse of two or three years, in lieu of more substantial structures.

They have been forced to this conclusion in consequence of the repeated failures to disinfect hospital wards saturated with poisonous emanations from deceased humanity. I attribute these unsuccessful efforts not to chemistry, but to the trivial and timid manner in which its re-agents have been employed. There are doubtless many chemical substances competent to accomplish the desired result.

The success attending the treatment of the surgical wards of Bellevue Hospital was due, in my opinion, to the generation of many thousand pounds of chlorine gas, and in employing this for a sufficient time in connection with moisture.

Lastly, the process is not an expensive one. The sulphuric acid, the salt and the manganese cost but a few cents per pound, and the leaden trough may be used for years. I prefer this method of producing the chlorine rather than several others, because of the heat on adding sulphuric acid to the moistened salts, it facilitates the diffusion of the chlorine, as well as aids in generating the gas.

Yours most cordially,

R. OGDEN DOREMUS.



